# FRASCA FVS-100HR & 200HR VISUAL SYSTEMS

FRASCA
INTERNATIONAL, INC.

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*A simulator's training value is greatly enhanced with the addition of a Frasca FVS-100HR or FVS-200HR visual system. From taxi to take-off, to breaking out of the clouds on an approach, the realism is evident. Instead of just "flying the gauges", you are in a complete flight environment. Available detailed real world databases that model specific airports and terrain make it possible to train some aspects of VFR cross country flying. Weather simulation allows realistic training in breakout from IFR conditions. Coupled with the advanced aerodynamic capabilities of Frasca's flight simulators, the visual system can be used to teach elements of ground handling, take-off, landings and many other VFR maneuvers.*

## The FVS-100HR

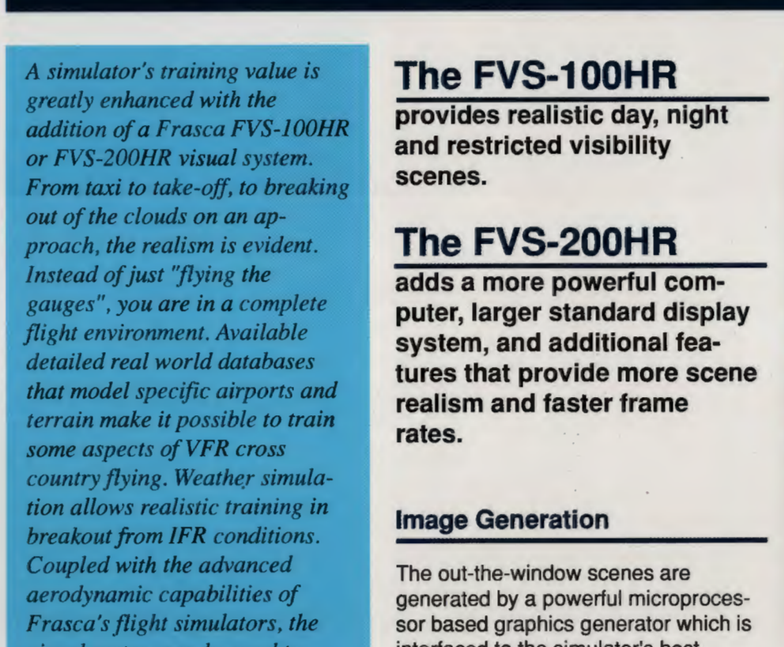
**provides realistic day, night and restricted visibility scenes.**

## The FVS-200HR

**adds a more powerful computer, larger standard display system, and additional features that provide more scene realism and faster frame rates.**

### Image Generation

The out-the-window scenes are generated by a powerful microprocessor based graphics generator which is interfaced to the simulator's host computer. Generic or specific visual databases in conjunction with the computer create the image of the airport and surrounding area.



### Video Display Units

The visual display is presented to the pilot in one or more direct view high resolution monitors. The display can include a fresnel lens that provides cost effective image collimation or a beam splitter display system that provides superior high-quality collimation for added realism. Collimated images provide for added realism by making the image appear to be far away. The effect results in greater depth realism. Display systems can, when required, include a second repeater display for the co-pilot.

# *High Resolution Visual Systems Meet Affordability*

million at a resolution of 1024 x 768 pixels.

While the graphics generator typically displays hundreds of polygons, dynamic scene management allows the database to include tens of thousands of elements.

### Databases

The visual system databases mathematically describe the visual scene. Database elements are broken down into polygons and light points. These represent objects such as fields, roads, runways, taxiways, ramps, buildings, aircraft, etc. Two types of databases are available. A reconfigurable or generic database does not represent a real world airport. Instead, it has features that are typical of many airports. Configuration options allow certain features of the airport - such as approach light systems - to be customized to match a real world airport. Real world databases represent actual airports and surrounding terrain.

### Product Support

Frasca International provides full support for the FVS100/200HR visual systems, including software update subscriptions which ensure that the system is always completely up to date.

### Graphics Generator

The graphics generator is capable of displaying polygons in 256 simultaneous colors from a palette of 16.7

### Reconfigurable Visual Database

The reconfigurable database provided with the FVS100/200HR series includes a representative runway surrounded by a generalized cultivation pattern.

### THE AIRPORT ENVIRONMENT INCLUDES DETAILS SUCH AS:

- 6,500 x 150 foot runway
- Precision approach runway markings
- Taxiway and high speed exits
- Ramp area with taxi stripes
- Hanger, building, and control tower
- Runway and taxiway lights, taxiway centerline lights*
- Approach, VASI and PAPI lights*
- Runway numbers*
- Aircraft on ramp, taxiway and runway*
- Truck on ramp, taxiway and runway*
- Shadow of aircraft on ground
- Tower beacon*
- Tower light gun signals*

*Controlled or configurable by instructor station. Some features specific to the FVS-200HR are not provided on the 100HR

## Real World Visual Databases

Real world visual databases offer a distinct advantage over the configurable database in that they represent actual airports. Runways are the correct length and width. Taxiways, ramps and buildings can all be correctly placed. Cultural features such as roads, rivers, towers and lights can be included and correctly placed. Multiple airports can be in view simultaneously. Control over lighting systems and other database features is absolute through the instructor station.

Real world databases can be as small as a single airport or as large as 300 x 200 nautical miles. Multiple real world databases can be loaded into the graphics generator, switching automatically when flying from one to another.

## AVAILABLE FEATURES IN REAL WORLD DATABASE INCLUDE:

- Runways
- Runway center lines and edge lines
- Runway numbers
- Runway precision approach markings
- Runway lights
- Runway centerline lights
- Runway end identifier lights (REIL)
- Taxiway lights
- Approach lighting systems
- VASI or PAPI systems
- VOR transmitter shacks
- Airport control towers
- Control tower beacons
- Control tower light gun signals
- Taxiways
- Ramps
- Roads
- Rivers
- Lakes
- Coastlines
- Islands
- Fixed location traffic.

## Environmental Effects

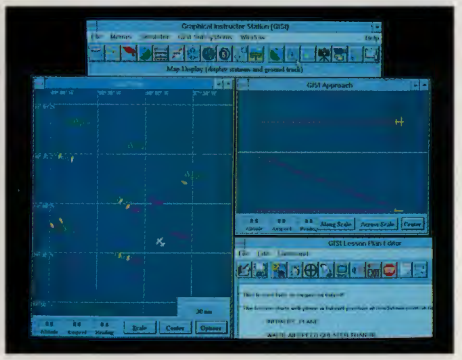
The FVS100/200HR also include environmental effects that are controlled from the instructor's console. These include:

- Clouds
- Irregular cloud bottoms
- Ground scud
- Day/Dusk*/Night

*not available on 100HR

## Instructor Controls

The instructor can control the various visual system features through either the original menu based instructor station or Frasca's new Graphical Instructor Station (GISt). For maximum flexibility and control, GISt is required. Several features of the visual system are available only in conjunction with GISt.



***The FVS-100/200HR visual systems increase the transfer of learning through the use of a low cost, high resolution color graphics display system which provides a real-time presentation of out-the-window scenes during flight simulator operations.***

***For more information on the FVS-100HR or 200HR visual systems or any Frasca Flight Simulators or options, contact us at:***

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